FACT SHEET

Subject: Deployable Exercise System (DEXES)

The United States Southern Command (USSouthCom) originally developed DEXES as a training support simulation to model the military, political, social, economic and public health outcomes that are typical of Military Operations Other Than War (MOOTW). USSouthCom uses DEXES to support Foreign Military Interaction exercises that include Civil Affairs, Psychological Operations, Peace Keeping Operations (PKO) and Humanitarian and Disaster Relief Operations. DEXES is an aggregated model and USSouthCom uses it together with a high resolution model such as the Joint Conflict Model. DEXES is a modular system built upon a Universal Simulation Shell that provides all basic functionality to the modules, such as mapping, scenario management, movement, networking, printing and adjudication. USSouthCom is now working to convert DEXES to the Department of Defense High Level Architecture (HLA) that standardizesl and synchronizes data transfer among models. After conversion to HLA, USSouthCom will continue to add modules for Non Combatant Evacuation Operations, Counter Drug, and Counter Terrorism, Control of Refugy and Migrant Flow, Show of Force and other potential kinds of MOOTW.

The Deployable Exercise System simulates Government Competence, Inflation, Taxes, Economic Growth, Government Corruption, Underground Economy, Unemployment, Ethnic Distrust, Intensity of the Armed Conflict, Civil Unrest, Epidemics, Health, Water, Food and Power Conditions, Number of Displaced Persons or Refugees, and populace support for: the Local Government, the Parties to the Conflict, and the Peace Keeping Forces. The analyst may build the DEXES data bases with the Excel spreadsheet. The model requires data on the population distribution, cities, aggregated areas, epidemic diseases, units and their types, actions that players may undertake, scenario events, and triggered events. Actions, scenario events and triggered events affect the model variables. The USS dispatches events according to the scenario script Units can undertake actions inherent to their capabilities. The USS will also trigger specified events when DEXES variables are within given ranges. DEXES uses Defense Mapping Institute digitized maps to display cities, displaced person camps, and unit locations within areas that may represent Areas of Operation or any type of political areas (provinces, countries). DEXES also uses the maps to display the magnitude of variable values (from a green to red spectrum) for cities and areas. The model creates a file that lists date and time stamped log of all actions and events simulated during a run. DEXES also creates a history file that records a periodic reading of all variable values. An analyst can read the history file into an Excel spreadsheet to create, compare and analyze variables with respect to time.

The DEXES conversion to an HLA compliant simulation will allow simulation of Other Than War Objects and their processes, while taking advantage of other models to simulate Military Objects and processes in real time. One such data exchange is passing to DEXES information of fire exchanges that may occur on a tactical model. This will allow DEXES to calculate the intensity of the armed conflict. In turn, DEXES will model the dynamics of that intensity of the armed conflict to determine the evolution of refugees, population health, public opinion and social and political conditions through a time jump. DEXES will be capable of passing data to other models, describing the new situation after the time jump. The intensity of the armed conflict translates into casualties, expenditure of supplies, changes in positions and friend and foe relationships that DEXES may pass to other models. DEXES uses its existing, basic models to aggregate units, handle supplies and generate attrition during the time jump, and to integrate the high resolution data into its social, political, economic, health and military modeling capabilities.

DEXES will continue to use a minimalist approach to modeling.